Professor Elijah (Lucien) Polak - Publications

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Goals

- Formal justification for the statement that Polak had "almost 300 papers" in his autobiography (archived 2026.08.10). To this end, it is sufficient to establish that Polak had "at least 292 papers."
- Find the papers that Polak and David Q. Mayne co-authored.

Unfortunately, the Berkeley website such as Faculty Publications - Elijah Polak (archived 26.08.10)—which listed 6 books, 3 journal articles, 1 conference paper, and 120 technical reports—is not helpful. Moreover, since the Web of Science would not index papers written for, and presented in, symposia and/or workshops (such as Polak 1973 Stanford symposium, Pironneau Polak 2005, Polak Walrand 2014), this work would be highly difficult and time consuming, if not nearly impossible, if the events below did not happen.

Event 1: On 2026 July 22, replying to my request to give his opinion on a review of Polak's 1997 book *Optimization. Algorithms and consistent approximations*, Olivier Pironneau - Wikipedia, Polak's 1972 PhD student, sent me a screenshot of the workshop proceedings *Optimization and Control with Applications*, Springer 2005 (archived 2026.08.15), for which he quite presciently wrote: "**An article from these days** in here, quite difficult to find if you ever decide to assemble his complete work," and attached a paper on consistent approximation co-authored with Polak from that 2001 workshop. My goal here is more modest in that I only want to show that Polak had "close to 300 papers" as stated above. The paper was

Pironneau Polak 2005

Pironneau O., Polak E. (2005), On a quasi-consistent approximations approach to optimization problems with two numerical precision parameters, in *Optimization and Control with Applications*, Springer 2005, the 2001 workshop proceedings, dedicated to Professor Elijah Polak, edited by Liqun Qi (archived 26.8.5), Koklay Teo, Xiaoqi Yang, pp. 423-446.

Event 2: It was highly fortunate that the editors of *Optimization and Control with Applications*, Springer 2005 included Polak's six books and 262 papers from 1961 to around year 2000 (reproduced below in Qi 2005 list) in the preface, which I found here before accessing the actual proceedings volume via the UIUC (University of Illinois at Urbana-Champaign) library.

Polak had at least 292 papers, with at least 33 papers with Mayne

Because the search in the Web of Science below did not cover all of Polak's papers—missing 46 papers from 1961 to 1972, and likely many papers written for, and presented at, symposia or workshops, such as Polak 1973 Stanford symposium, Mayne Polak 1993, Pironneau Polak 2005, or Polak Walrand 2014—I documented my search results in the Web of Science (WoS) list below, identifying ***at least*** 292—among which 290 came from Qi 2005 list and Web of Science list, plus Pironneau Polak 2005 and Polak Walrand 2014—and thus "close to 300" papers by Polak, who also had ***at least*** 33 papers with David Q. Mayne.

Polak Walrand 2014

Below is the 2014 joint conference paper, with Jean Walrand - Wikipedia, that was "quite difficult to find" and not indexed by the Web of Science, in the proceedings that I could access through the UIUC library:

Lee, S., Polak, E., Walrand, J. (2014), On the use of min-max algorithms in receding horizon control laws for harbor defense, in *Engineering Optimization 2014* (archived 2026.08.15), edited by Rodrigues, Hélder; Herskovits, José; Mota Soares, Christóvão, et al., Taylor & Francis Group, London, 2015, proceedings of the *4th International Conference on Engineering Optimization* (ENGOPT2014, Lisbon, Portugal, 8-11 September 2014). [See also Walrand, Jean (2026), *Professor Elijah (Lucien) Polak - A tribute*, Internet Archive. CC BY-SA 4.0.]

Obituary

Berkeley

In Memoriam: Professor Emeritus Elijah Lucien Polak - EECS at Berkeley archived 2026.08.10

Legacy.com

Elijah Lucien Polak Obituary Jun 12, 2026 - Legacy.com, archived 2026.08.10

Berkeley home page

Elijah Polak | EECS at UC Berkeley, archived “org” on 2026.05.12

Selected publications

- E. Polak, *Optimization: Algorithms and Consistent Approximations*, Springer Series in Applied Mathematical Sciences, Vol. 124, New York, NY: Springer-Verlag, 1997. Go to Polak 1997 book.
- E. Polak, *Computational Methods in Optimization: A Unified Approach*, R. Bellman, Ed., Mathematics in Science and Engineering, Vol. 77, New York, NY: Academic Press, 1971. Go to Polak 1971 book.
- E. Polak and G. Ribiere, "Note on the convergence of methods of conjugate directions," *Revue Francaise d'Informatique et de Recherche Operationnelle*, vol. 3, no. 16, pp. 35-43, Jan. 1969. Go to Polak-Ribiere 1969.
- N. O. Da Cunha and E. Polak, "Constrained minimization under vector valued-criterial in finite dimensional spaces," *J. Mathematical Analysis & Applications*, vol. 19, no. 1, pp. 103-124, July 1967. Go to Da Cunha 1967.
- M. Canon, C. Cullum, and E. Polak, "Constrained minimization problems in finite-dimensional spaces," *SIAM J. on Control*, vol. 4, no. 3, pp. 528-547, Aug. 1966. Go to Canon 1970 book; Canon 1966 paper;

Qi 2005 list

Polak's list of publications from 1961 up to year 2002 in the 2005 Conference Proceedings *Optimization and Control with Applications, Springer 2005* edited by Liqun Qi (archived 26.8.5), Koklay Teo, Xiaoqi Yang, based on a 2001 workshop dedicated to the 70th birthday of Polak. The preface together with the list of six books and 262 papers by Polak can be found here.

A. BOOKS

1. E. Polak, *Absolute stability of regulator systems*, (Translated from Russian) (M. A. Aizerman and F. R. Gantmacher) Holden-Day, 1964.

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Canon 1970 book

3. Canon, M. D., C. D. Cullum and E. Polak, *Theory of Optimal Control and Mathematical Programming*, McGraw-Hill Co., New York, 285 pages, 1970. Google Scholar Cited by 666 (as of 26.9.13).
Go to Selected publications.

4. E. Polak and E. Wong, *Notes for a First Course on Linear Systems*, Van Nostrand Reinhold Co. New York, 169 pages, 1970.

Polak 1971 book

5. E. Polak, *Computational Methods in Optimization: A Unified Approach*, Academic Press, 329 pages, 1971. Google Scholar Cited by 2835 (as of 26.9.13).
Go to Selected publications.

Polak 1997 book

6. E. Polak, *Optimization: Algorithms and Consistent Approximations*, Springer, New York, 800 pages, 1997. Google Scholar Cited by 31 (as of 26.9.13)
Go to Selected publications.

B. PAPERS AND REPORTS

Polak 1961

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2. E. Polak, "Minimum Time Control of Second Order Pulse-Width-Modulated Sampled-Data Systems," ASME Trans. Journal of Basic Engineering, Vol. 84, Series D, No. 1, pp. 101-110, 1962.

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Plant," IEEE Trans. on Automatic Control, Vol. AC-8, No. 1, pp. 49-56, 1963.

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Discrete Time Systems," Proc. 3rd IFAC Congress, Paper No. 28B, London, 1966.

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Total papers 256

in Section B. PAPERS and REPORTS: 262 - 6 = 256

Web of Science (WoS) list

Updated 26.8.14 - Started 26.8.13

I searched the WoS with **all default databases (WoS Core Collection)**:

A&HCI , BKCI-SSH , BKCI-S , CCR-EXPANDED , ESCI , IC , CPCI-SSH , CPCI-S , SCI-EXPANDED , SSCI

Search keywords: au=polak e* and ad=berkeley

Search keywords	**Results** Number of articles
elijah polak and david mayne (Topic)	0
elijah polak and david mayne (Author)	0
elijah polak (All Fields)	11
polak e* (Author)**:** The results included many "Polak" with different first names	294
polak e* not (polak elias) not (polak elzbieta) not (polak emma) not (polak ewa) not (polak erceg) (Author) **:** After eliminating "Polak" with 5 different first names, but there were still many entries with first names different from the above 5.	269
au=polak e* and ad=berkeley : The first entry was in 1973, missing 46 papers from 1961 to 1972, as listed in Qi 2005 list. But even then, **these results are incomplete**, e.g., Polak 1973 Stanford symposium listed in Qi 2005 list, but was not listed among these 140 entries shown below in this section. Polak had more than 140 papers from 1973 to 2016.	140
au=polak e* and ad=berkeley and **2000** or **2001** or **2002** or **2003** or **2004** or **2006** or **2005** or **2007** or **2008** or **2009** or **2010** or **2011** or **2013** or **2015** or **2016** (Publication Years)	36
au=(polak e* and Mayne D*) and ad=berkeley	33

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34 papers to add

The papers below, except for those marked with the “cross” sign ❌, can be added to the 256 Total papers in Section B. PAPERS and REPORTS:
140 - 96 + 1 - 11 = 34

Total, at least 290 papers

256 + 34 = 290

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Polak and Mayne, at least 33 papers

Updated 26.8.31 - Started 26.8.12

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